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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/034,826

12/28/2001

Garrett Holmes

DKT 00054A  
(BWI-00055)

1464

7590

03/26/2004

Patent Docket Administrator

BorgWarner Inc.

3001 West Big Beaver Rd. - Suite 200

P.O. Box 5060

Troy, MI 48007-5060

EXAMINER

DONOVAN, LINCOLN D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

TECHNOLOGY CENTER 2800

MAY 26 2004

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# Office Action Summary

Applicati n N .

10/034,826

Applicant(s)

HOLMES ET AL.

Examiner

Donovan Lincoln

Art Unit

2832

-- The MAILING DATE of this c mmunication appears on the c ver sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disp sition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 9-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of group I, claims 1-8 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the multiple areas of search for all of the claimed inventions would have been necessitated by the claimed subject matter. This is not found persuasive because each claimed invention is directed towards structure and circuitry requiring differing considerations and search areas.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perach [US 4,538,645] in view of Hamilton et al. [US 5,707,039].

Regarding claim 1, Perach discloses a control valve assembly comprising:

- a housing [40] defining an internal chamber therein;
- an electromagnetic coil [22] wound on a bobbin [38] coaxially mounted within the housing;
- an axially movable armature [72], having first and second ends, mounted in the internal chamber;
- an actuation member [74] extending from the armature;

Art Unit: 2832

- a pole piece [46] operably associated with the armature;
- a valve manifold [12] including control passages [16, 18];
- first and second valve seats [figure 3];
- a valve [66] positioned for selectively sealing on the first or second valve seats;
- a spring [76] for biasing the armature; and
- control means [column 5, line 57-column 6, line 14].

Perach discloses the instant claimed invention except for a flux tube partially surrounding the armature.

Hamilton et al. disclose a hydraulic solenoid having an armature [41] interacting with a flux tube [33].

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use the flux tube design with the pole piece of Perach, as suggested by Hamilton et al., for the purpose of increasing activation force.

Regarding claims 2-3 and 6-7, The specific control functions, bias states and valve positioning would have been an obvious design consideration dependent upon the specific application of the hydraulic valve.

Claims 4-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perach, as modified, as applied to claim 1 above, and further in view of Barkhimer et al. [US 5,752,689].

Art Unit: 2832

Perach, as modified, disclose the instant claimed invention except for the valve being a ball valve.


Barkhimer et al. disclose a solenoid valve assembly having a ball type valve.

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use a ball type valve design of Barkhimer et al. for the valve of Perach, as modified, for the purpose of maintaining a superior seal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donovan Lincoln whose telephone number is 703 308-3111. The examiner can normally be reached on M-F 8:30-5:00.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1920.

ldd  
March 19, 2004

  
LINCOLN DONOVAN  
PRIMARY EXAMINER  
GROUP 2100

On Form PTO FORM HDP-1449 (Based on Form PTO-1449)	SERIAL NO. 10/034,826	ATTORNEY DOCKET NO. DKT 00054A (BWI-00055)	SERIAL NO. 10/034,826	ATTORNEY DOCKET NO. DKT 00054A (BWI-00055)	SERIAL NO. 10/034,826
PATENT AND TRADEMARK OFFICE			PATENT AND TRADEMARK OFFICE		
INFORMATION DISCLOSURE CITATION			INFORMATION DISCLOSURE CITATION		
(Use several sheets if necessary)			(Use several sheets if necessary)		
FILING DATE			FILING DATE		
December 28, 2001			December 28, 2001		
GROUP			GROUP		
2832			2832		

U.S. PATENT DOCUMENTS									
Ref. Desig.	Examiner's Initials	Document Number	Date	Class/ Subclass	Translation Name	No	Class/ Subclass	(If appropriate) Filing Date	
22.	LD	4,564,046	1/1986		Lungu				
23.		4,532,951	8/1985		Fermanich				
24.		4,494,727	1/1985		Babitzka, et al.				
25.		4,483,484	11/1984		Hafner, et al.				
26.		4,411,289	10/1983		Walters				
27.		4,226,142	10/1980		Rembold, et al.				
28.		3,989,063	11/1976		Brouwers, et al.				
29.		3,970,111	7/1976		Brüne, et al.				
30.		3,964,518	6/1976		Hesse, et al.				
31.		2,090,569	10/1936		Hinge				

FOREIGN PATENT DOCUMENTS								
Ref. Desig.	Examiner's Initials	Document Number	Date	Country	Class/ Subclass	Translation Yes	No	
1.	LD	DE 19,744,696	4/1999	Germany				
2.		WO 9,848,332	10/1998					
3.		DE 19,622,101	12/1997	Germany				
4.		DE 4,431,459	9/1994	Germany				
5.		DE 4,131,033	3/1993	Germany				
6.		2,041,593	5/1991	Canada				
7.		DE 3,907,993	9/1989	Germany				

Examiner: DONNAN	Date Considered: 08-06-03
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EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PTO-1449	ATTORNEY DOCKET NO. DKT 00054A (BWI-00055)	SERIAL NO. 10/034,826	ATTORNEY DOCKET NO. DKT 00054A (BWI-00055)	SERIAL NO. 10/034,826
PATENT AND TRADEMARK OFFICE			APPLICANT	
Garrett Holmes, et al.			Garrett Holmes, et al.	
FILING DATE			GROUP	
December 28, 2001			2832	

Sheet 3 of 3  
December 28, 2001

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# FOREIGN PATENT DOCUMENTS

Ref. Desig.	Examiner's Initials	Document Number	Class/Date	Country	Class/Subclass	Translation Yes	No
12/2000	LD	DE 3,618,830 A1	12/1987	Germany	—		
9/2000		Kraemer					
5/2000		Doden, et al.					
6/1999		Bourion, et al.					
9/1998		Bochland					
6/1998		Werner					
3/1998		Eith, et al.					
1/1998		Hamilton, et al.					
7/1997		Zechmann, et al.					
6/1997		Brehm, et al.					
4/1997		Breh, et al.					
5/1994		Hammer					
4/1994		Kurnar					
3/1994		Maranzano					
3/1993		Tauscher					
1/1993		Tauscher					
5/1992		Tauscher					
12/1991		Strohm, et al.					
10/1991		Amberg					
9/1991		Ca...					

Examiner:

Donovan

Date Considered:

08-06-03

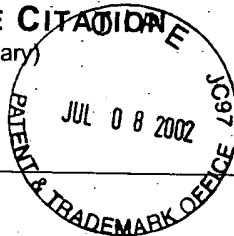
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FORM 1449 (Based on Form PTO-1449)

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Sheet 1 of 3



ATTORNEY DOCKET NO.

DKT 00054A (BWI-00055)

SERIAL NO.

10/034,826

APPLICANT

Garrett Holmes, et al.

FILING DATE

December 28, 2001

GROUP

2832

**U.S. PATENT DOCUMENTS**

Ref. Desig.	Examiner's Initials	Document Number	Date	Name	Class/ Subclass	(If appropriate) Filing Date
1.	LP	6,161,813	12/2000	Baumgartner, et al.		
2.		6,116,870	9/2000	Kraemer		
3.		6,069,784	5/2000	Doden, et al.		
4.		5,915,799	6/1999	Bourlon, et al.		
5.		5,810,328	9/1998	Bochland		
6.		5,769,121	6/1998	Werner		
7.		5,730,509	3/1998	Eith, et al.		
8.		5,707,039	1/1998	Hamilton, et al.		
9.		5,645,097	7/1997	Zechmann, et al.		
10.		5,636,828	6/1997	Brehm, et al.		
11.		5,617,890	4/1997	Breh, et al.		
12.		5,307,774	5/1994	Hammer		
13.		5,301,921	4/1994	Kumar		
14.		5,289,841	3/1994	Maranzano		
15.		5,218,999	6/1993	Tanimoto		
16.		5,127,624	7/1992	Domke		
17.		5,109,885	5/1992	Tauscher		
18.		5,069,420	12/1991	Stobbs, et al.		
19.		5,051,631	9/1991	Anderson		
20.		4,907,684	3/1990	Breisch		
21.	↓	4,662,605	5/1987	Garcia		

Examiner:

DONIVAN

Date Considered: 08-06-03

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<b>Notice of References Cited</b>	Application/Control No. 10/034,826	Applicant(s)/Patent Under Reexamination HOLMES ET AL.	
	Examiner Donovan Lincoln	Art Unit 2832	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,752,689	05-1998	Barkhimer et al.	251/129.15
	B	US-5,707,039	01-1998	Hamilton et al.	251/129.17
	C	US-4,538,645	09-1985	Perach, Asi	137/625.65
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
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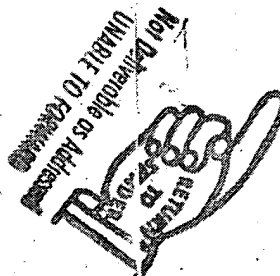
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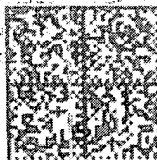
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